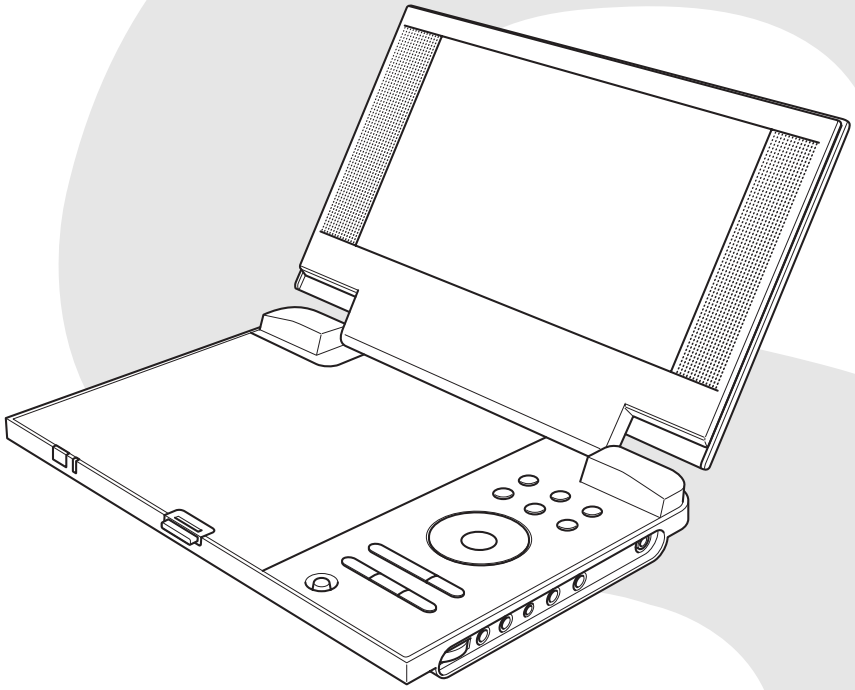
TOSHIBA

FILE No. 810-200614GR

SERVICE MANUAL

PORATABLE DVD PLAYER

SD-P1880SE



The above model is classified as a green product (*1), as indicated by the underlined serial number. This Service Manual describes replacement parts for green product . When repairing any green product, use the part(s) described in this manual and lead-free solder (*2).
For (*1) and (*2), see the next page.

Feb.,2006 GREEN

(*1) GREEN PRODUCT PROCUREMENT

The EC is actively promoting the WEEE & RoHS Directives that define standards for recycling and reuse of Waste Electrical and Electronic Equipment and for the Restriction of the use of certain Hazardous Substances. From July 1, 2006, the RoHS Directive will prohibit any marketing of new products containing the restricted substances.

Increasing attention is given to issues related to the global environmental. Toshiba Corporation recognizes environmental protection as a key management tasks, and is doing its utmost to enhance and improve the quality and scope of its environmental activities. In line with this, Toshiba proactively promotes Green Procurement, and seeks to purchase and use products, parts and materials that have low environmental impacts.

Green procurement of parts is not only confined to manufacture. The same green parts used in manufacture must also be used as replacement parts.

(*2) LEAD-FREE SOLDER

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repair of this product.

WARNING

This product is manufactured using lead free solder.

DO NOT USE LEAD BASED SOLDER TO REPAIR THIS PRODUCT !

The melting temperature of lead-free solder is higher than that of leaded solder by 86°F to 104°F (30°C to 40°C). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or PCB being soldered. Great care should be made to ensure high-quality soldering when servicing this product — especially when soldering large components, through-hole pins, and on PCBs — as the level of heat required to melt lead-free solder is high.

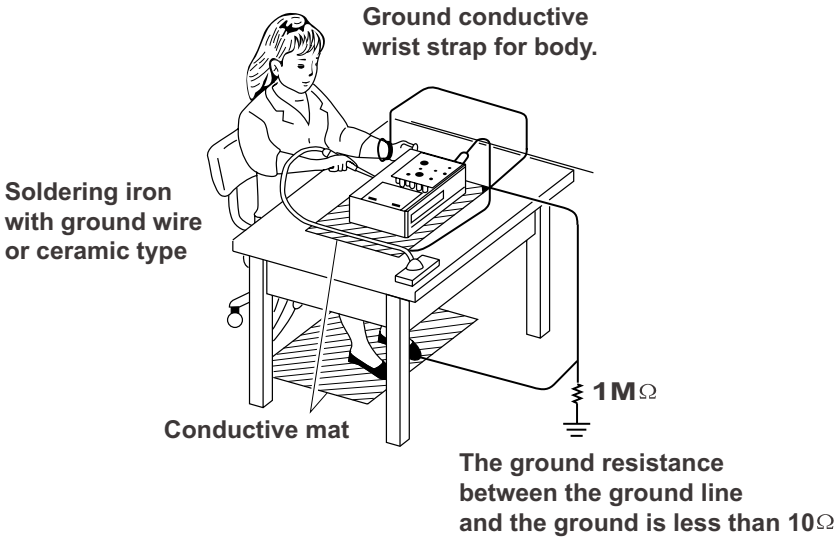
LASER BEAM CAUTION LABEL

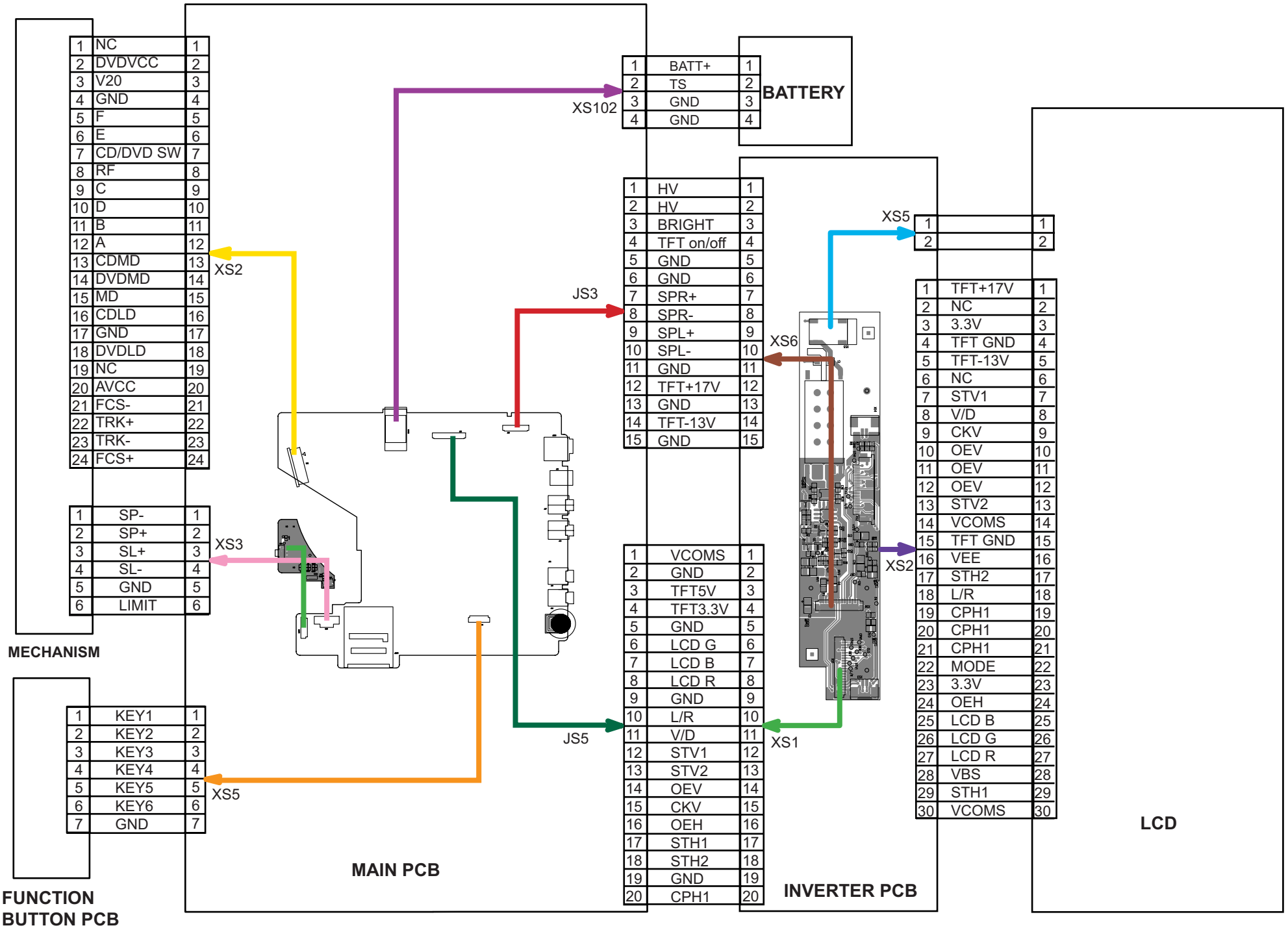
- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

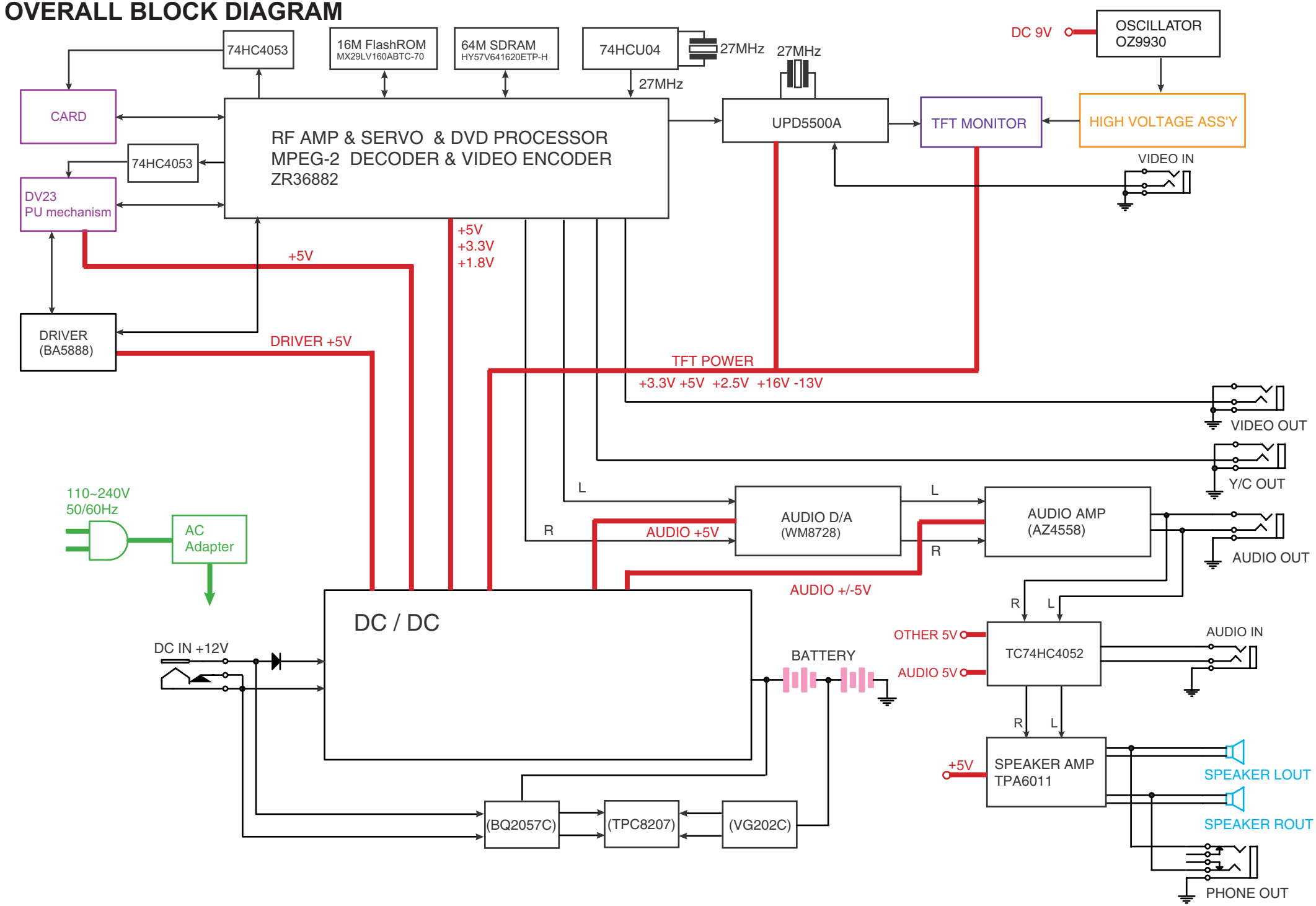
PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.
Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire,etc. to protect the laser diode from damage by static electricity.
And also, the LSI and IC are same as above.




1 NC 1
2 DVDVCC 2
3 V20 3
4 GND 4
5 F 5
6 E 6
7 CD/DVD SW 7
8 RF 8
9 C 9
10 D 10
11 B 11
12 A 12
13 CDMD 13
14 DVDMD 14
15 MD 15
16 CDLD 16
17 GND 17
18 DVDLD 18
19 NC 19
20 AVCC 20
21 FCS- 21
22 TRK+ 22
23 TRK- 23
24 FCS+ 24
XS2
1 SP- 1
2 SP+ 2
3 SL+ 3
4 SL- 4
5 GND 5
6 LIMIT 6
XS3
MECHANISM
1 KEY1 1
2 KEY2 2
3 KEY3 3
4 KEY4 4
5 KEY5 5
6 KEY6 6
7 GND 7
XS5
FUNCTION BUTTON PCB
1 BATT+ 1
2 TS 2
3 GND 3
4 GND 4
XS102
BATTERY
1 HV 1
2 HV 2
3 BRIGHT 3
4 TFT on/off 4
5 GND 5
6 GND 6
7 SPR+ 7
8 SPR- 8
9 SPL+ 9
10 SPL- 10
11 GND 11
12 TFT+17V 12
13 GND 13
14 TFT-13V 14
15 GND 15
JS3
1 VCOMS 1
2 GND 2
3 TFT5V 3
4 TFT3.3V 4
5 GND 5
6 LCD G 6
7 LCD B 7
8 LCD R 8
9 GND 9
10 L/R 10
11 V/D 11
12 STV1 12
13 STV2 13
14 OEV 14
15 CKV 15
16 OEH 16
17 STH1 17
18 STH2 18
19 GND 19
20 CPH1 20
JS5
MAIN PCB
XS6
XS1
XS2
XS5
1 1
2 2
1 TFT+17V 1
2 NC 2
3 3.3V 3
4 TFT GND 4
5 TFT-13V 5
6 NC 6
7 STV1 7
8 V/D 8
9 CKV 9
10 OEV 10
11 OEV 11
12 OEV 12
13 STV2 13
14 VCOMS 14
15 TFT GND 15
16 VEE 16
17 STH2 17
18 L/R 18
19 CPH1 19
20 CPH1 20
21 CPH1 21
22 MODE 22
23 3.3V 23
24 OEH 24
25 LCD B 25
26 LCD G 26
27 LCD R 27
28 VBS 28
29 STH1 29
30 VCOMS 30
INVERTER PCB
LCD

OVERALL BLOCK DIAGRAM



1. Troubleshooting

1. No power when turned on.
2. The initial screen is not displayed on the LCD.
3. The DVD drive does not work.
4. The operation of the DVD player stops at initializing display.
5. Image output stops during the operation.
6. No sound or abnormal sound comes out from the speakers in the DVD player.
7. No picture or sound comes out from the external output.
8. No sound comes out from the headphones.
9. No image or sound is output by external input.
10. The DVD drive does not operate with the battery.

1.1 No power when turned on.

When the power is turned on, and if the LED on the front panel does not light green, check the following items and repair the defective parts.

(1) Check the power supply cable

If the cable is not the supplied one, replace it with the supplied cable and turn on the power again.

If the power supply cable is good, the AC adapter may be defective.

If the LED does not light after replacing, check the following items.

(2) Check the AC adapter

If the AC adapter is not the supplied one, replace it with the supplied AC adapter and turn on the power.

If the AC adapter is good, the main board may be defective.

If the LED does not light after replacing, check the following items.

(3) Replace the main board

1.2 The initial screen is not displayed on the LCD.

If the initial screen is not displayed on the LCD, check the following items.

(1) Check the LED on the front

If the LED does not light, proceed to 1.1.

(2) Check the backlight

If the backlight does not light up, separate the DVD player into top assembly and bottom assembly, and check the Harness, and check the connectors for defects.

If the Harness is broken:

Replace the broken Harness.

If the Harness is not broken:

Remove the LCD Mask and the LCD Unit and check the following:

- Check the connectors of the Harness, replace the Inverter Unit or the LCD Unit.
- If the connectors are good, replace the Inverter Unit or the LCD Unit.

(3) Check the lighting of LCD

If the LCD does not light, separate the DVD player into the top assembly and bottom assembly, and check the Harness, and check the connectors on the main board.

If the connector is broken:

Replace the Harness or the main board.

If the connector is not broken:

Remove the LCD Mask and the LCD Unit, and check the connection to the harness of the LCD unit.

- If a bad connection is found.
  Connect the Harness to the LCD unit.
- Other than the above
  Replace the LCD unit or the main board.

1.3 The DVD drive does not work.

When the DVD drive does not work after the power is turned on, check the following items and repair or replace the defective parts.

(1) Press the DISC cover switch and turn on the power. Then check whether or not the optical pick-up lens of the DVD drive lights.

CAUTION: Visible laser radiation when open and interlock defeated. Do not stare into Laser beam.

The optical pick-up lens lights dim:

It is caused by deterioration of the optical pick-up lens. Replace the DVD drive.

The optical pick-up lens does not light:

Check the connectors of the FPC with DVD drive. Also check the connection to the main board and to the DVD drive.

- Loose connection is found.
  Connect FPC with DVD drive to Main Board firmly, and then check the operation of the DVD drive again.
- The DVD-FPC is broken.
  Replace the DVD drive.
- Other than the above.
  Replace the DVD drive or the main board.

(2) Insert a DVD disc and turn on the power

The DVD drive does not work:

The motor of the DVD drive or the main board is defective. Replace the DVD drive or the main board.

The DVD drive works but the initializing operation of the optical pick-up lens does not start or abnormal noise sound:

The DVD drive is defective. Replace the DVD drive.

1.4 The operation of the DVD player stops at initializing display.

If the DVD player does not work after the initializing screen is displayed, check the indication on the screen. Then repair the defect according to it.

(1) Insert a DVD disc and close the DISC cover, and turn on the power. Then check the LCD screen or TV connected by AV cable.

- **The message "loading" is not displayed or the operation stops at the message "Loading".**
  Since the DVD drive or the main board is defective, check in the following order:
  1) DVD drive
  2) Main board
- **The message "CHECK DISC" is displayed.**
  Check the DVD disc for fingerprints, dirt, etc.
  If the DVD disc is OK, then check the following items:

1) Check the FPC with DVD drive
   If a loose connection, connect it firmly.
   If it is damaged, replace the DVD drive.
2) Other than above
   For other cases, replace the unit in the following order:

- DVD drive (defective optical pick-up)
- Main board

1.5 Picture output stops during the operation.

If the image output from the media in the DVD player stops during the operation, replace the DVD drive.

1.6 No sound or abnormal sound comes out from the speakers in the DVD player.

If no sound comes out from the speakers in the DVD player, check the following:

(1) Check for moving images on the LCD screen

Check whether or not the picture stops in halfway. If it stops, replace the DVD drive.

(2) Check the operation of the DVD drive.

Check whether or not the DVD drive works. If it stops, replace the DVD drive.

(3) Check the connection of the speakers in the DVD player.

Separate the DVD player into the top assembly and bottom assembly, and then check the connections of the speaker harnesses to the Inverter Unit. Then check the Inverter Unit to the main board. If the connection is loose, connect it firmly. If the connector has been connected firmly, replace the main board or speaker.

1.7 No pictrue or sound comes out from the external output

If no picture or sound is output from the TV connected by the AV cable, replace the main board.

NOTE: Before this test, make sure the drive works.

1.8 No sound comes out from the headphones.

If no sound comes out from the headphones, replace the main board.

1.9 No picture or sound is output by the external input.

If no image or sound is output by AV input, replace the main board.

1.10 The DVD drive does not operate with the battery.

(1) Check the operation with a good battery.

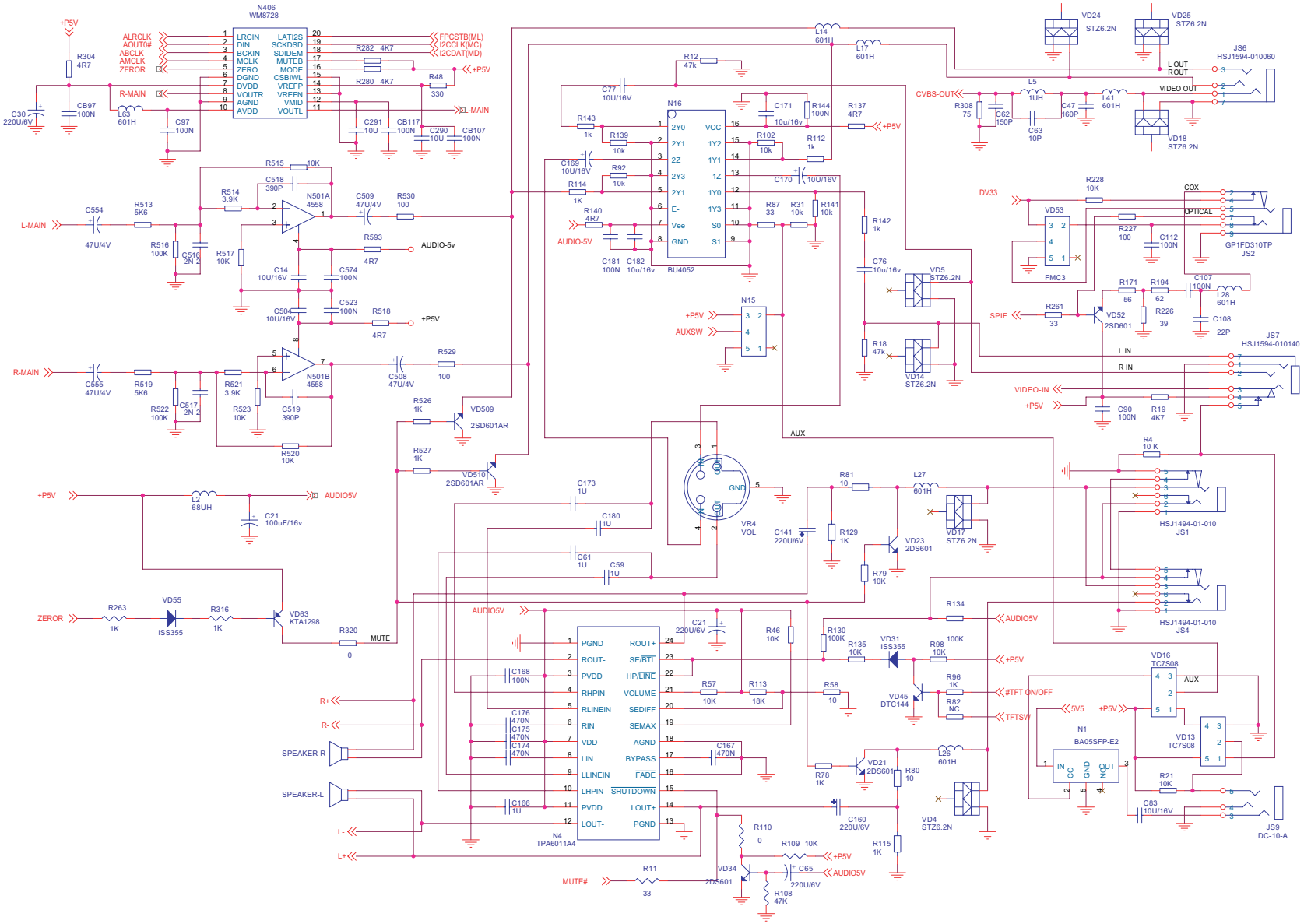
Install a good battery and make sure the LED lights up orange while the AC adapter is connected. When the LED does not light up or blinks, check the connection of the battery connector inside the DVD player. If the connection is loose, connect it firmly. If the connector has been connected firmly, replace the main board.

(2) Other than the above, replace the battery.

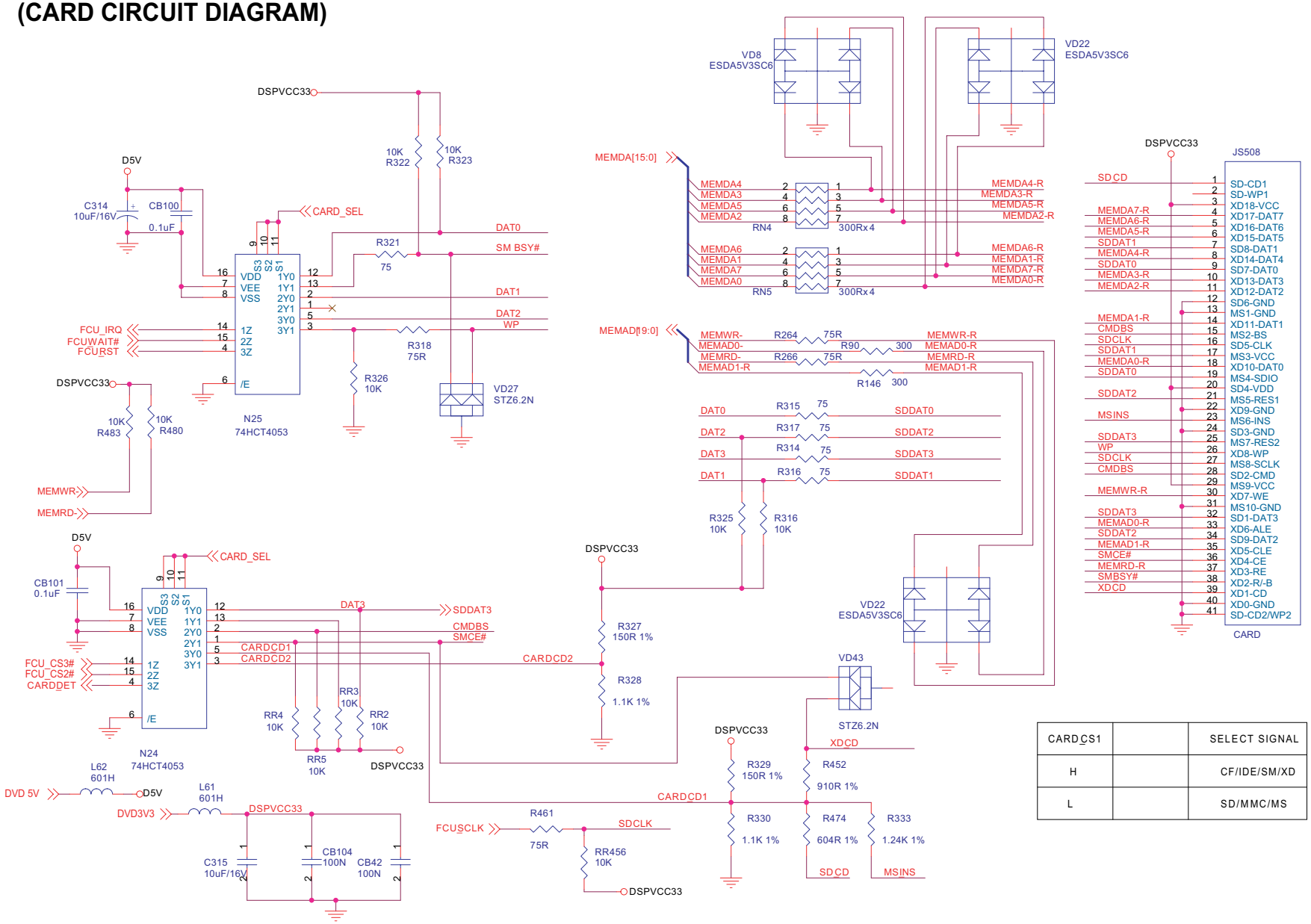
NOTE:

- For this check, use a battery which is not fully charged (because the LED does not light when the battery is fully charged.)
- Before this check, make sure other function work correctly.

MAIN BOARD CIRCUIT DIAGRAM
(AUDIO CIRCUIT DIAGRAM)

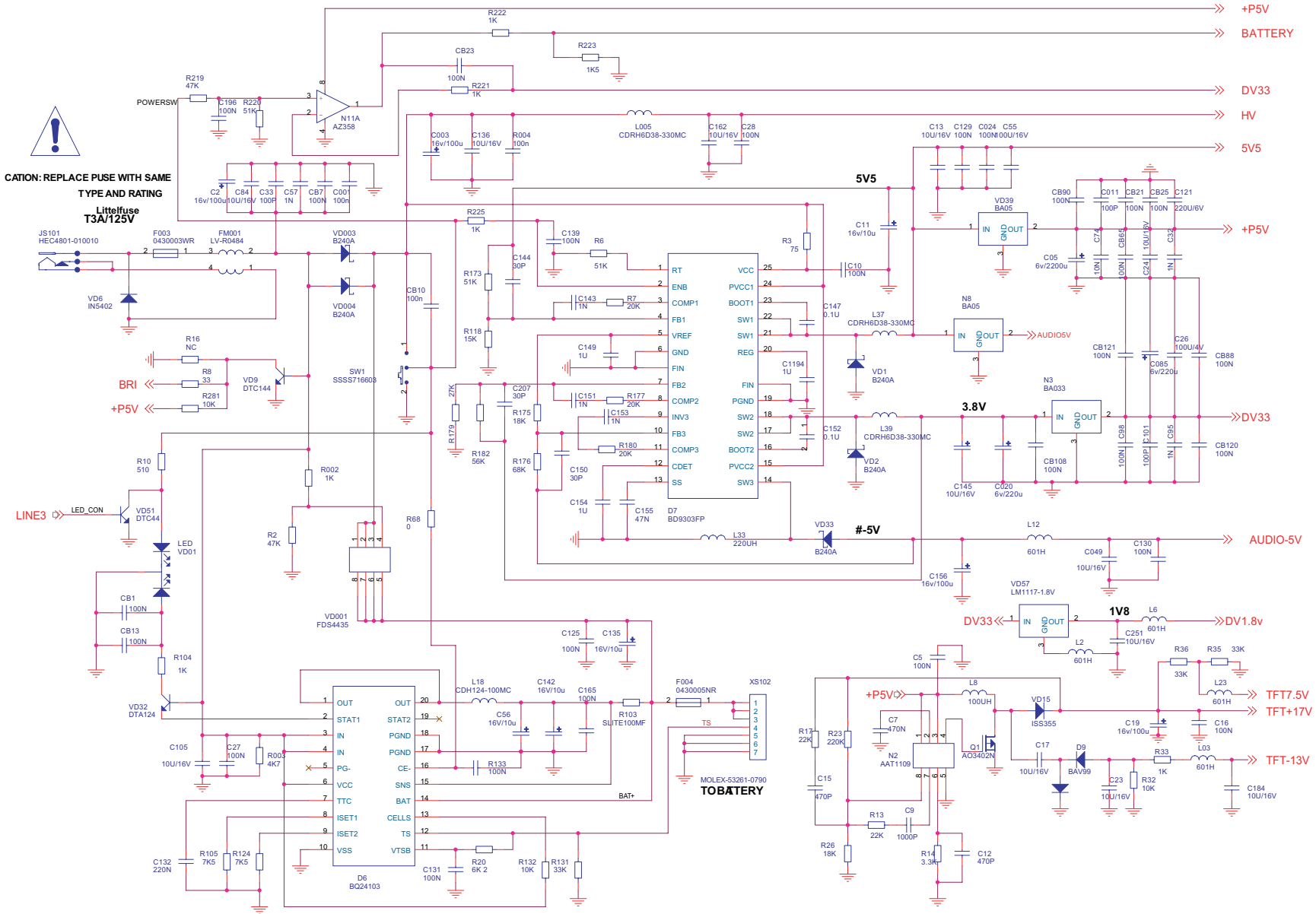


MAIN BOARD CIRCUIT DIAGRAM
(CARD CIRCUIT DIAGRAM)

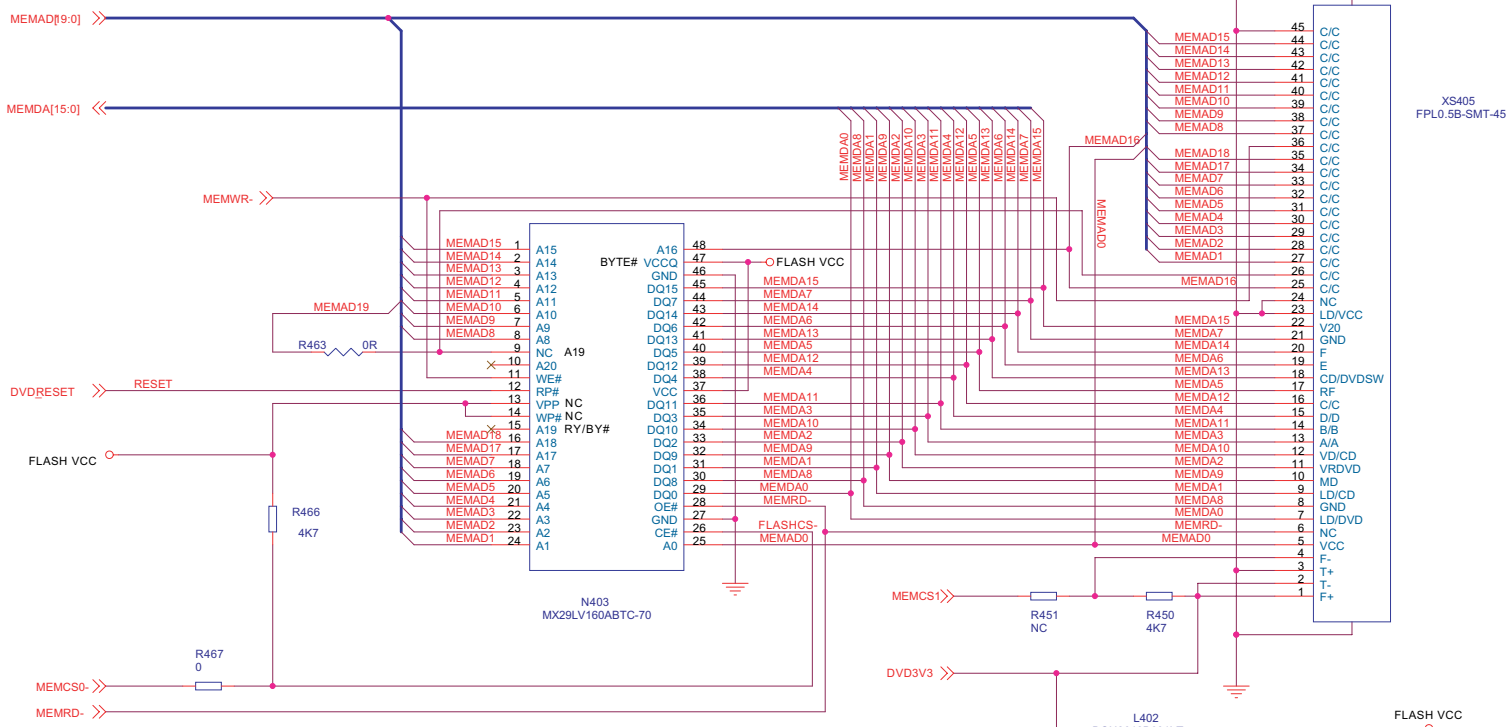


CARD_CS1		SELECT SIGNAL
H		CF/IDE/SM/XD
L		SD/MMC/MS

MAIN BOARD CIRCUIT DIAGRAM
(DC POWER & CHARGE CIRCUIT DIAGRAM)



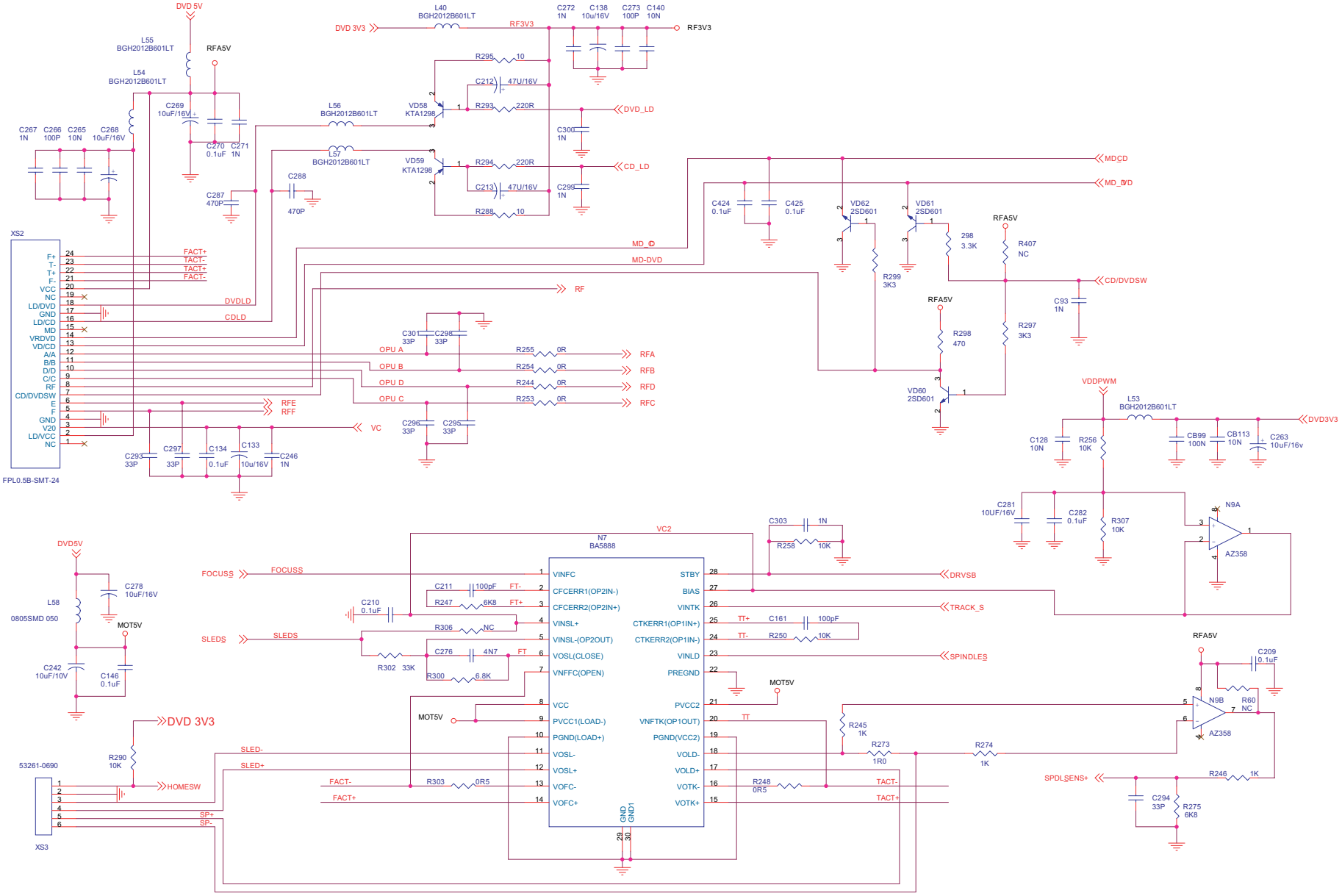
MAIN BOARD CIRCUIT DIAGRAM
(FLASH & DAC & KEY CIRCUIT DIAGRAM)



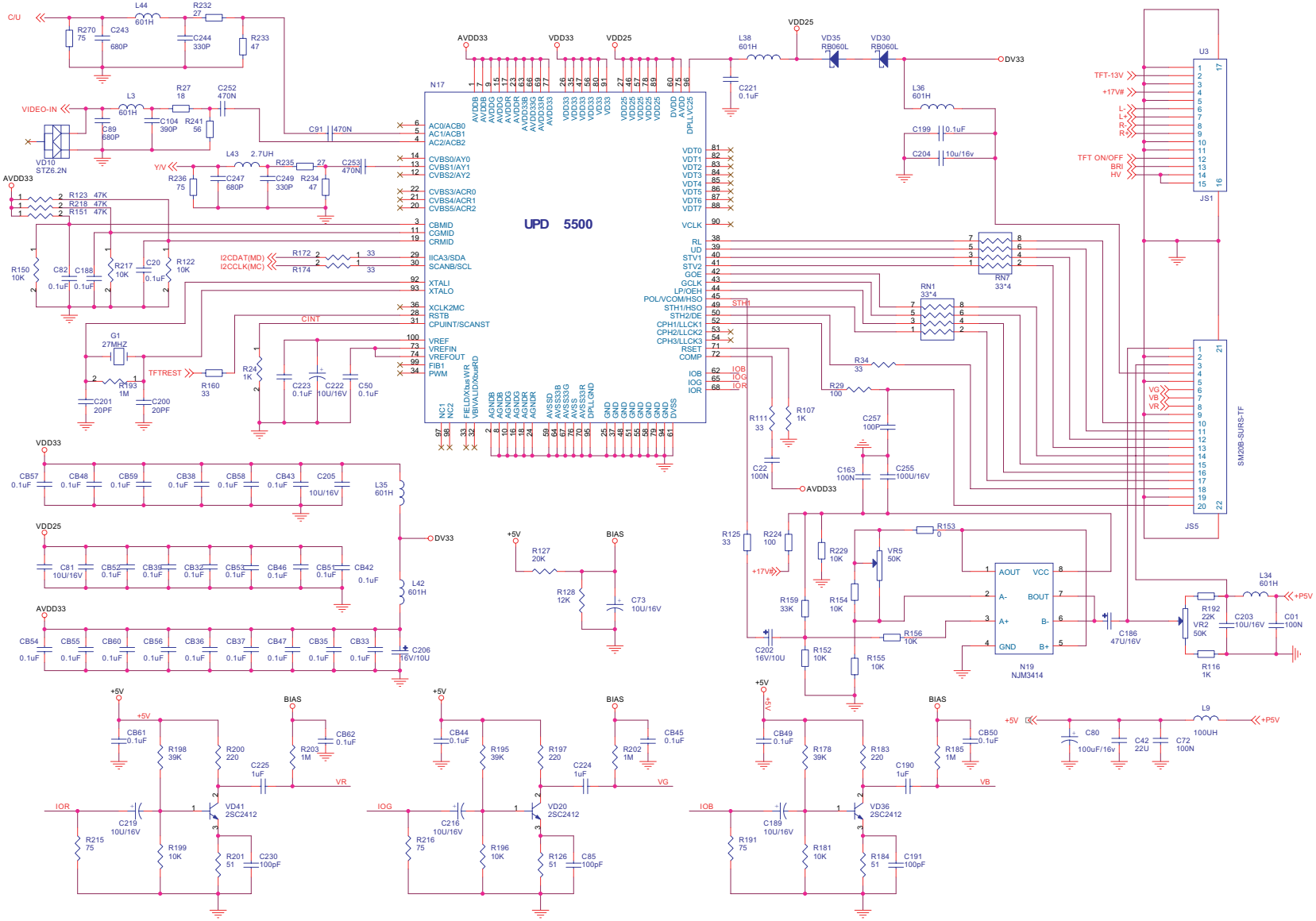
Flash speed <= 70 nS.
If plan to use 90ns
Flash, it needs to be
verified by s/w.

When using INTEL FLASH:
R161=0 ohm, R160=NC
When using SST FLASH:
R160=0 ohm, R161=NC
Default is SST mode.

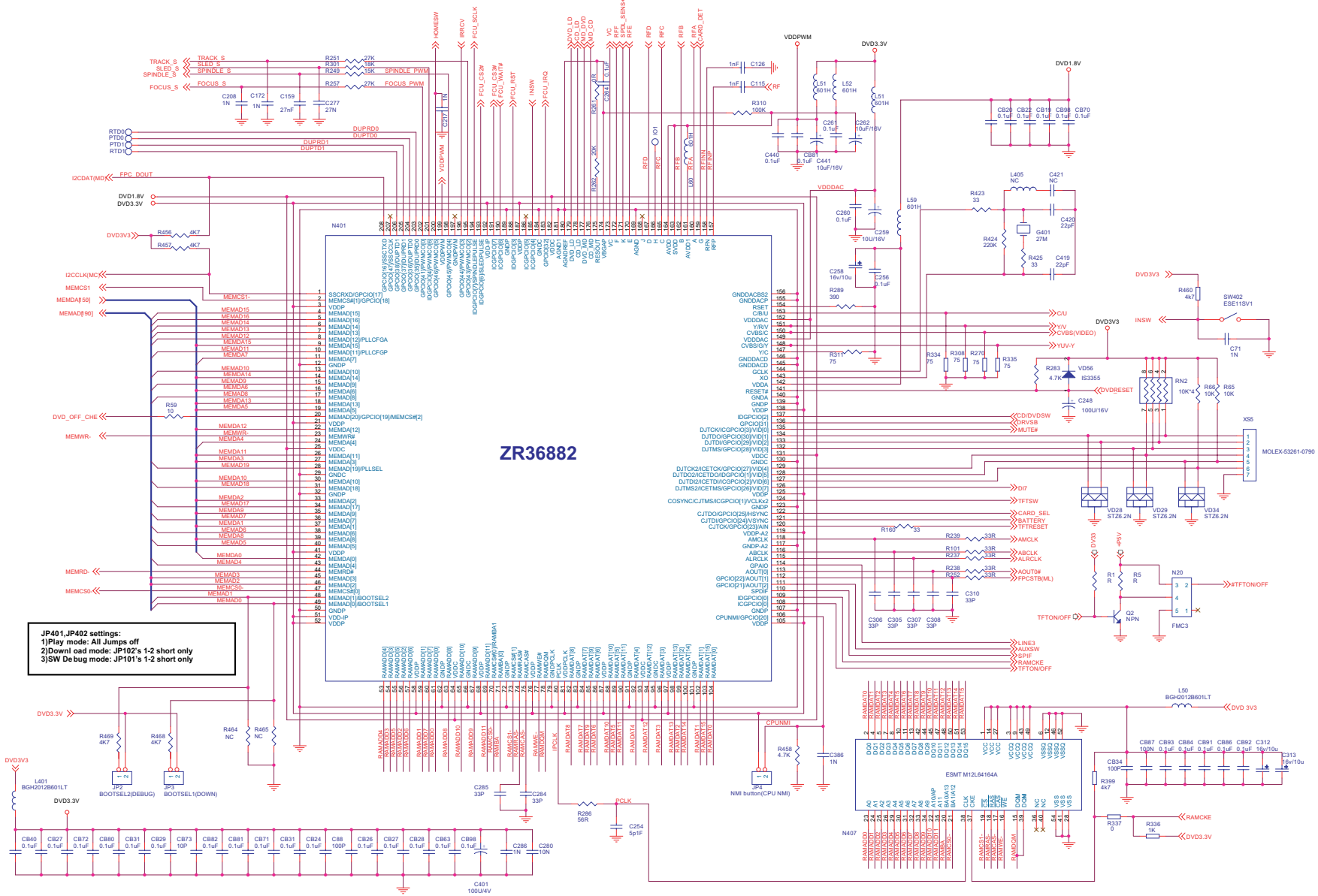
MAIN BOARD CIRCUIT DIAGRAM
(OPU CONNECTOR & DRIVER CIRCUIT DIAGRAM)



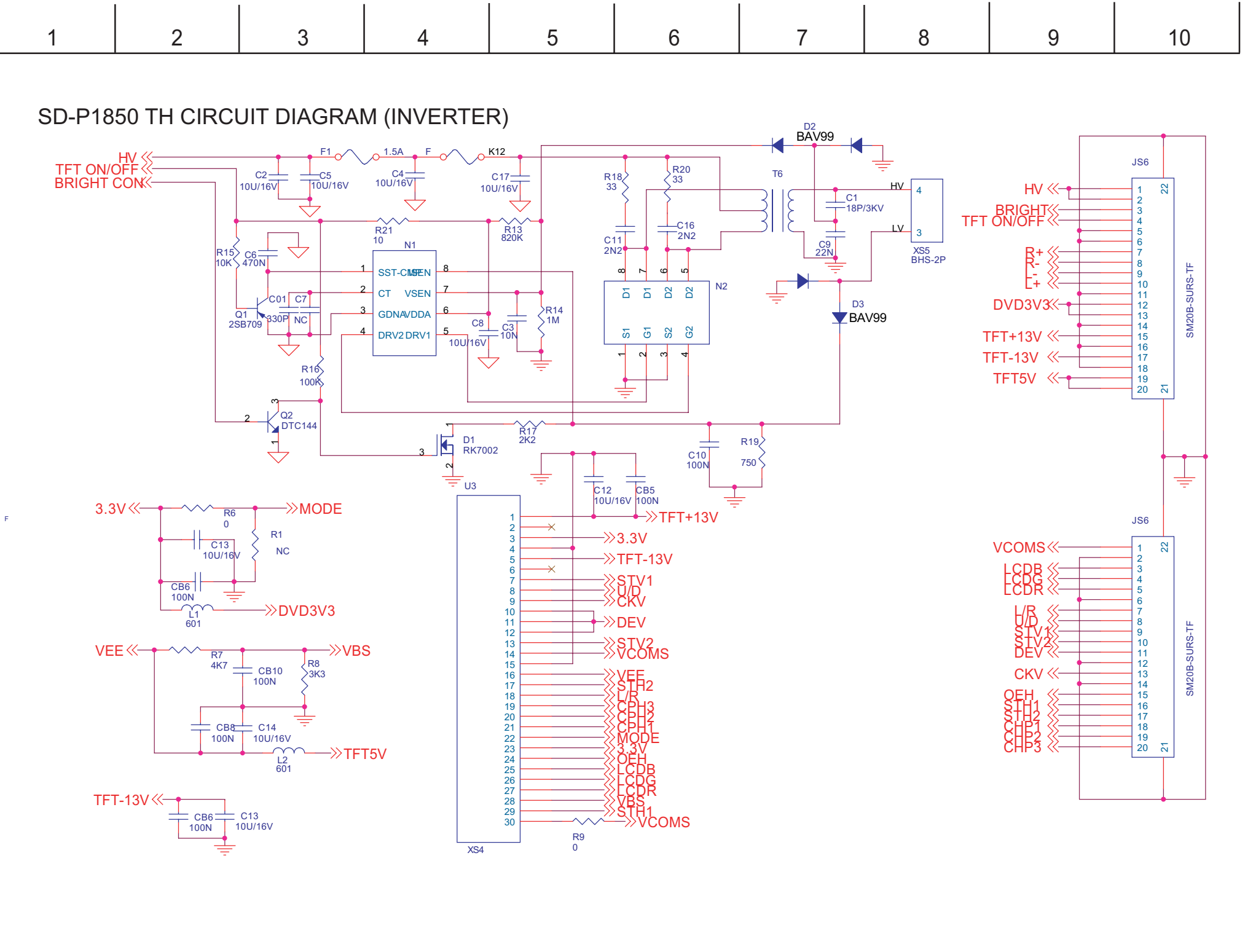
MAIN BOARD CIRCUIT DIAGRAM
(TFT DISPLAY CIRCUIT DIAGRAM)



MAIN BOARD CIRCUIT DIAGRAM
(ZA36882 & SDRAM & FLASH CIRCUIT DIAGRAM)

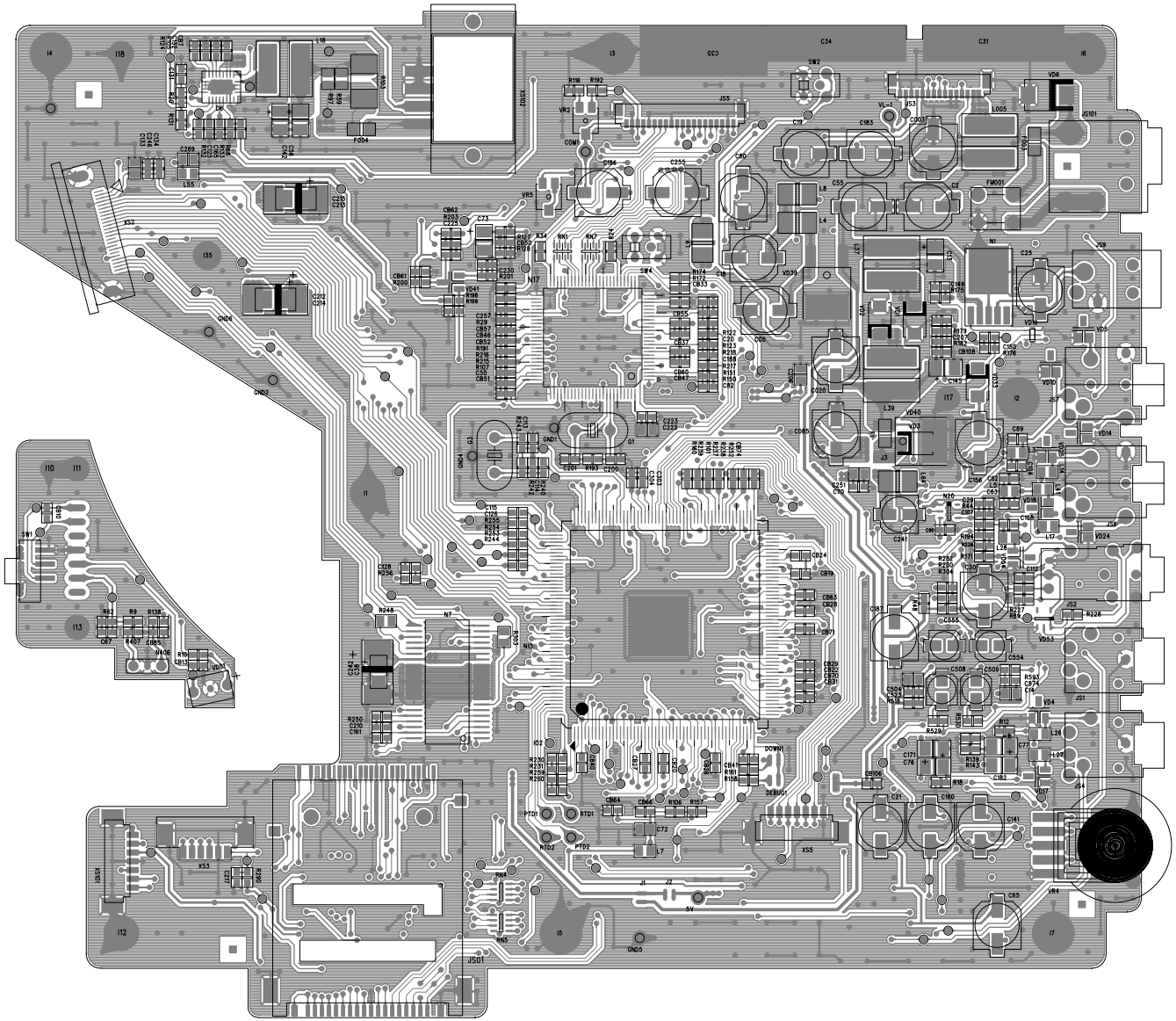


SD-P1850 TH CIRCUIT DIAGRAM (INVERTER)



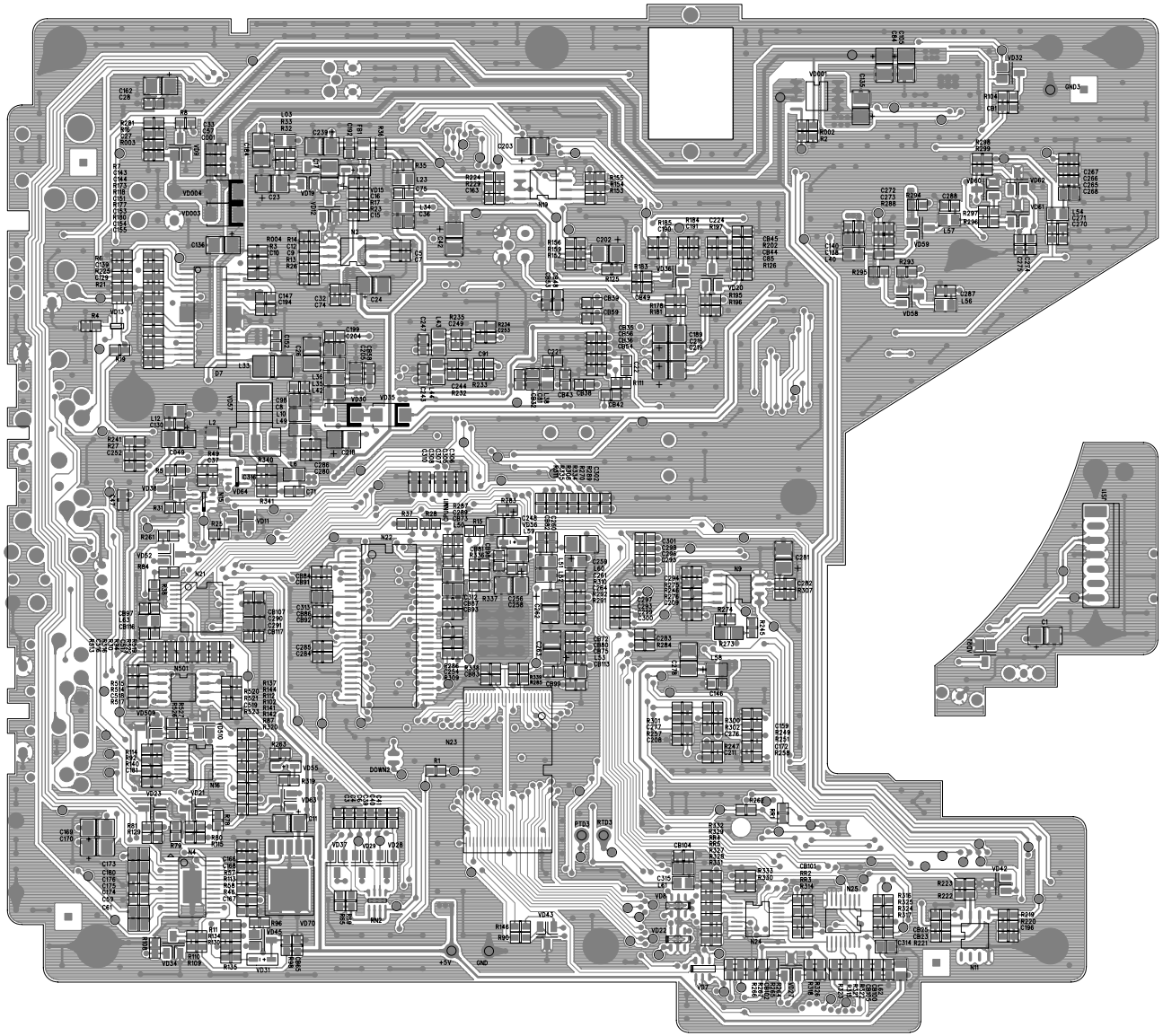
	1	2	3	4	5	6	7	8	9	10
A										
B										
C										
D										
E										
F										
G										

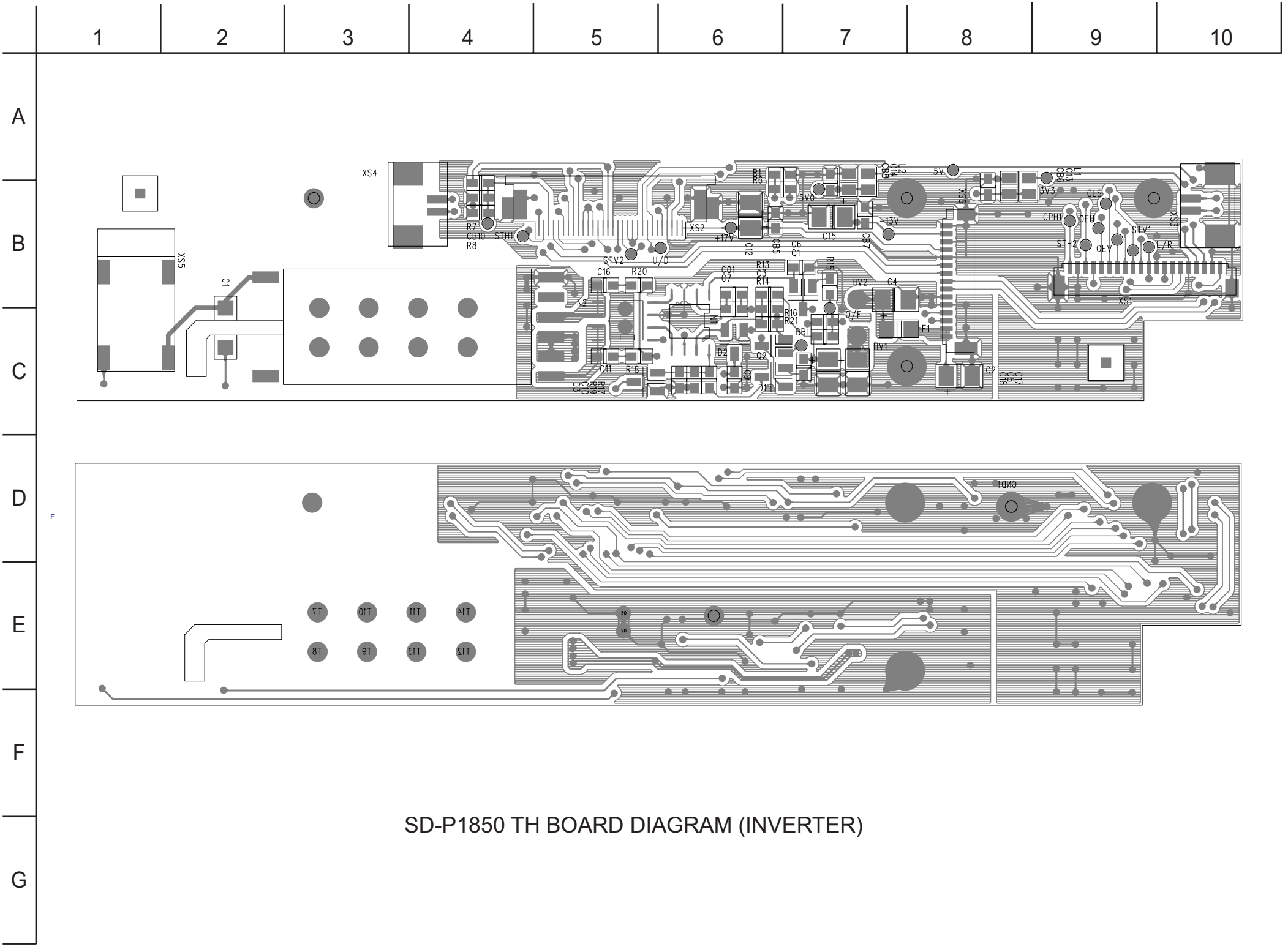
MAIN BOARD PCB DIAGRAM (TOP)



	1	2	3	4	5	6	7	8	9	10
A										
B										
C										
D										
E										
F										
G										

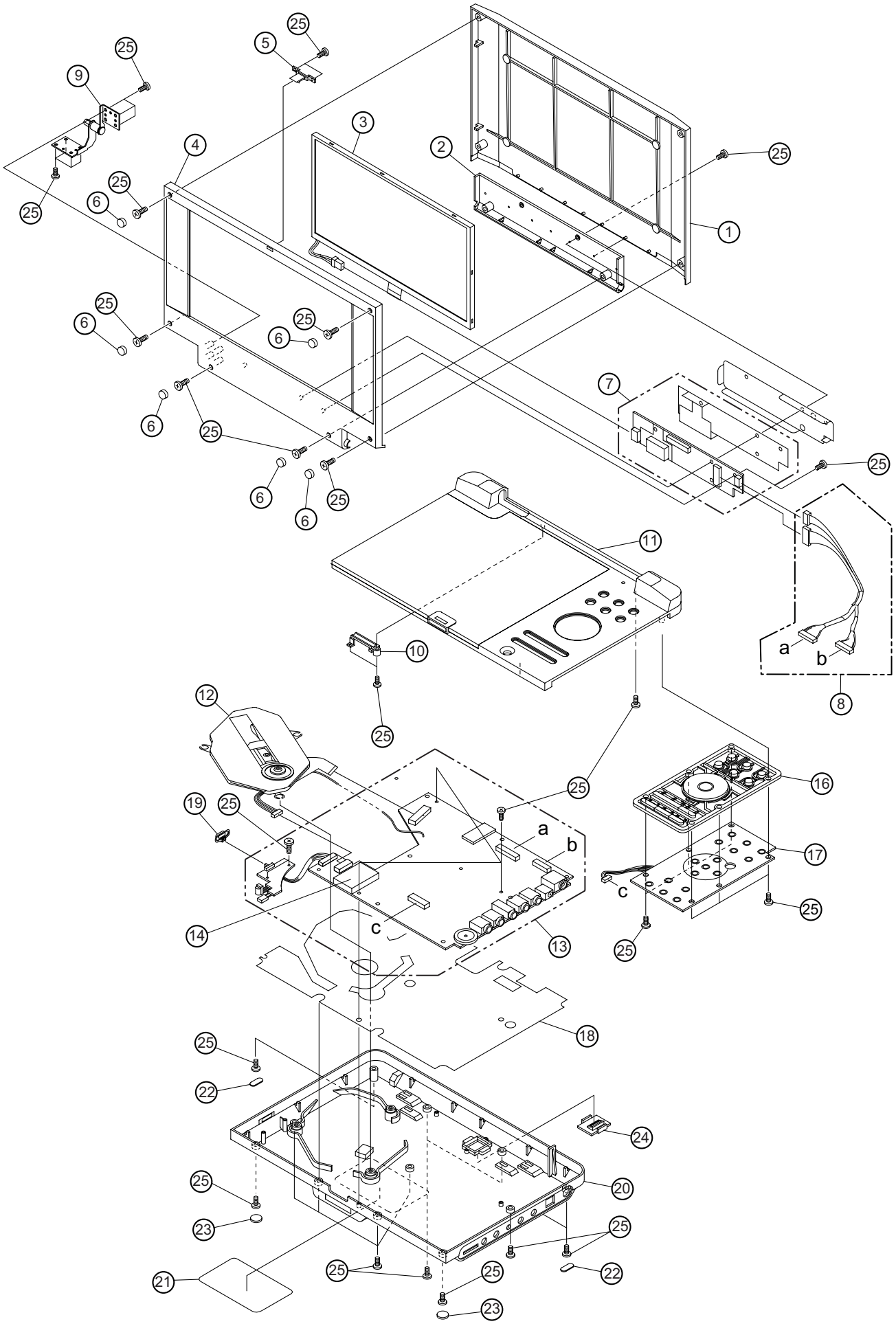
MAIN BOARD PCB DIAGRAM (BOTTOM)



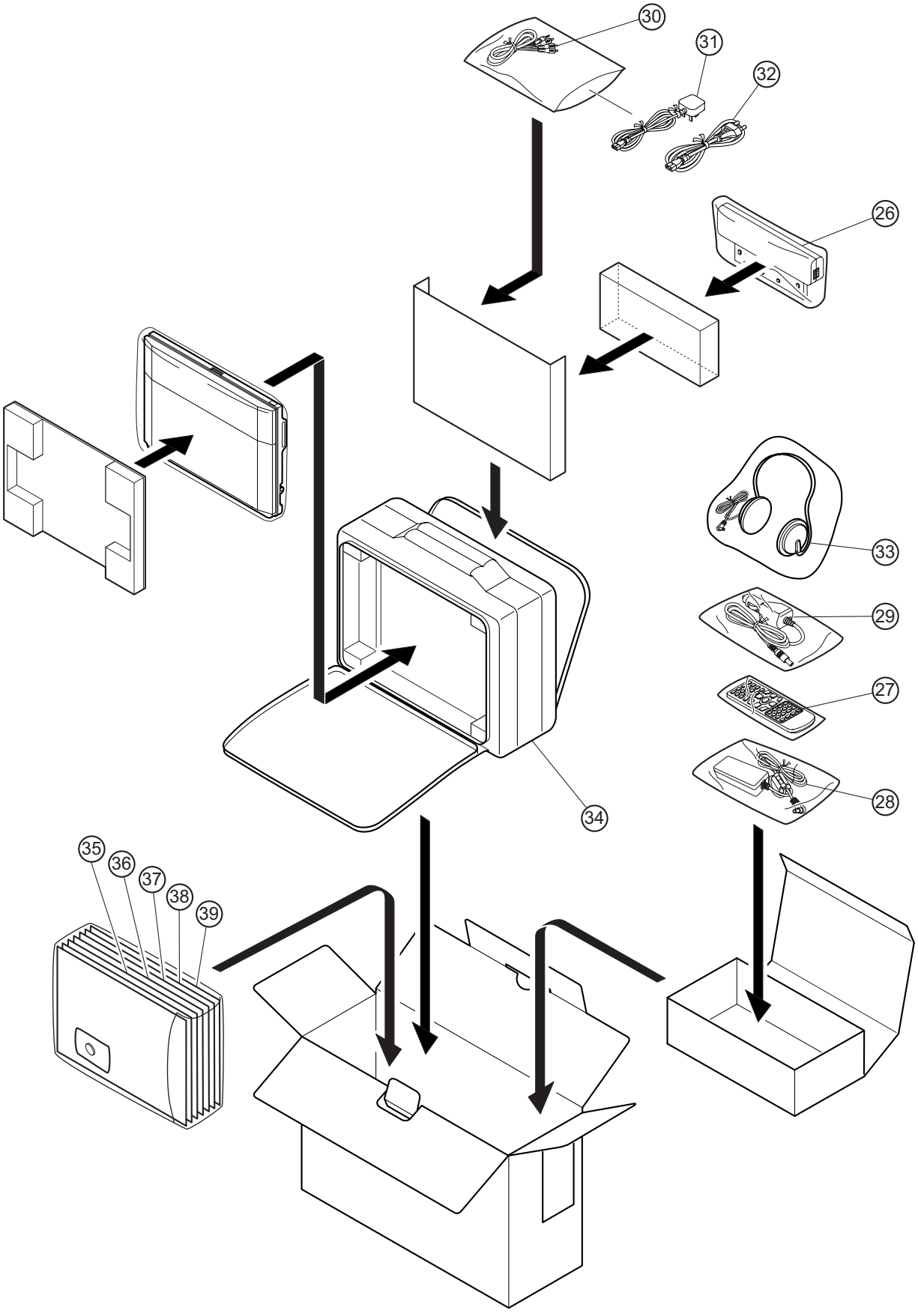


SD-P1850 TH BOARD DIAGRAM (INVERTER)

SD-P1880 CHASSIS ASSEMBLY



SD-P1880SE PACKING ASSEMBLY



PARTS LIST: SD-P1880SE

Safety	Location No.	TSB P/N	Reference No.	Description
	1	AH301704	e26013	top cover ass'y
	2	AH301671	e26003	inverter cover ass'y
	3	P000452740	bea7187l	LCD unit, LTA080B821A
	4	AH301689	e26005	LCD mask
	5	AH301486	eb40052	open close locker
	6	AH301475	eb40074	LCD mask pad
⚠	7	AH301674	e25027	Inverter unit
	8	AH301675	e25022	Inverter harness
	9	AH301479	eb40066	Hinge
	10	AH301690	eb40049h	Hinge cover
	11	AH301698	e26011	Sub cover ass'y
⚠	12	AH301697	e25023	DVD mecha ass'y
⚠	13	AH301676	e22186	Main/Power Switch PCB
	14	AH301677	ep60167	Card slot
	16	AH301678	e26007	Function button
	17	AH301679	e22187	Function PC board
	18	AH301497	eb40060	Bottom shield
	19	AH301691	eb40050h	Power switch knob
	20	AH301692	e26009	Bottom cover ass'y
	21	AH301705	es12529	Rating label without serial No.
	22	AH301504	eb40068	Bottom cover cushion (squere)
	23	AH301503	eb34725h	Bottom cover cushion (circle)
	24	AH301682	eb34715	battery connector cover
	25	AH301683	e26010	All screw(kit) and LCD holder
⚠	26	AH301706	e11084n	Battery Pack, SD-PBP18E
	27	AH301378	es06054c	Remote control
⚠	28	AH301442	es9014	AC adaptor, ADPV16A
⚠	29	AH301125	es8147	Car adaptor, MEDC01AX
	30	AH301124	es3468a	AV cable
⚠	31	AH301379	es2678	Power cord(UK)
⚠	32	AH301380	es2684	Power cord(EURO)
	33	AH301630	es4365a	head phone
	34	AH301441	es8996	SD-PCK18 bag
⚠	35	AH301699	es14245	Owner's manual (English)
⚠	36	AH301700	es14245a	Owner's manual (French)
⚠	37	AH301701	es14245b	Owner's manual (German)
⚠	38	AH301702	es14245c	Owner's manual (Polish)
	39	AH301703	es14245d	Quick guide (Spanish)

Note: There are rating label (21) applied on the bottom cover ass'y (20).
When the bottom cover is replaced with a new one, put a new rating label on the new bottom cover.
Transcribe the following items (SERIAL NO., MANUFACTURED etc.) described on the old rating label to the new rating label by using a permanent maker.

SAFETY PRECAUTION
The parts identified by ⚠ mark are critical for safety. Replace only with part number specified. The mounting position of replacement is to be identical with originals.
The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU,TOKYO 105-8001,JAPAN